

Psoas technique

D. Bruce Fligg, DC*

The psoas muscle is probably the most complex muscle in our body. It has been a topic for debate and a challenge to researchers.¹⁻⁵ Some of the issues are; it's role in postural support; whether it internally or externally rotates the femur; and how it affects the lumbar spine. Out of all this, the clinician must deal with the clinical reality of the issues – the patient with lower back pain.

There are basically two governing factors in our approach to treating conditions that involve the psoas muscle. Those are; 1) the acute, and 2) the chronic stages. The acute stage can then further be divided into two more sub-categories; 1) primary and 2) secondary psoas involvements. For example, an acute primary psoas condition involves a direct injury to the muscle, myofascial tissues, or to the tendinous-ligamentous insertion. A secondary psoas involvement could be a result of a disc herniation, facet syndrome, sacroiliac syndrome, or a visceral-somatic reflex mechanism.

This article will deal with the treatment of the psoas muscle where pressure techniques are indicated, and we'll assume that the psoas produces external rotation of the femur. Pressure techniques are indicated in secondary psoas involvements (acute or chronic and any primary chronic condition). These techniques are not indicated in the acute inflammatory stage of a primary psoas involvement. In this stage direct pressure over an injured muscle can exacerbate symptoms by increasing the inflammatory response due to tissue damage.

The main pressure technique taught at CMCC is a modified Fox manoeuvre.⁵ When applying the pressure techniques, a distinction must be made whether to stretch or shorten the muscle while applying the pressure. For example, during the acute phase it is better to shorten the muscle while applying the pressure technique, whereas in the chronic condition it is more beneficial to stretch the muscle while applying the pressure technique.

Any kind of pressure technique on the psoas muscle must be applied with a tremendous amount of sensitivity towards the patient's pain tolerance level. Although the outcome of this technique is highly beneficial in relieving spasm and pain, the process can be painful.

The first technique is the technique used on the acute secondary psoas syndrome (see Fig. 1). It is important that throughout the technique the doctor maintain eye contact with the patient to determine the depth of the pressure applied. The leg of the involved psoas side is flexed both at the hip and the knee and the right arm of the doctor passes underneath the tibia and applies pressure on the psoas while the left arm wraps around the outer aspect of the femur and reinforces the contact hand. The doctor then uses their body weight to further increase the angle of flexion and external rotation of the hip (see Fig.



Figure 1: This figure illustrates the starting position for the pressure technique used on the acute secondary psoas involvement. Here the doctor stands on the right side of the patient in order to contact the right psoas muscle. The left arm and hand wraps around the outside of the leg and supports the contact hand on the psoas muscle.

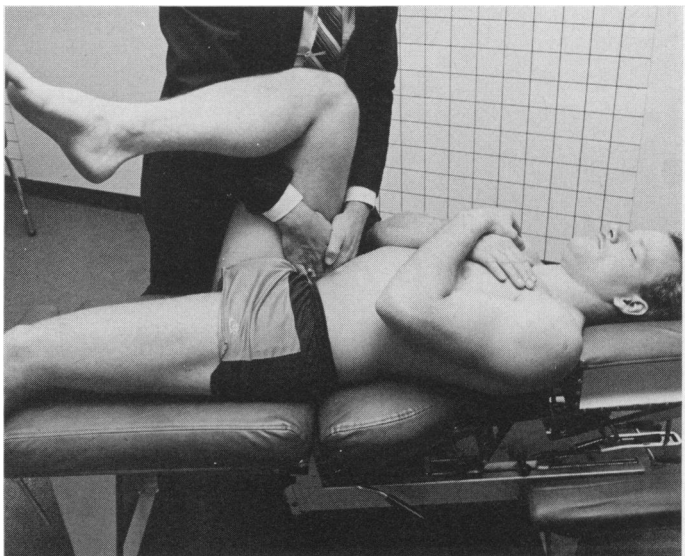


Figure 2: This figure demonstrates the next step after Figure 1. Here the hip is flexed and externally rotated while maintaining the pressure contact over the psoas muscle.

2). The doctor then forces an adduction movement of the femur so that the knee of the patient passes over the chest. The doctor then holds this position for approximately twenty to thirty seconds or until the psoas muscle under the contact hand begins to relax (see Fig. 3).

*Assistant professor
Canadian Memorial Chiropractic College, 1900 Bayview Avenue Toronto,
Ontario M3G 3E6
© DB Fligg 1985

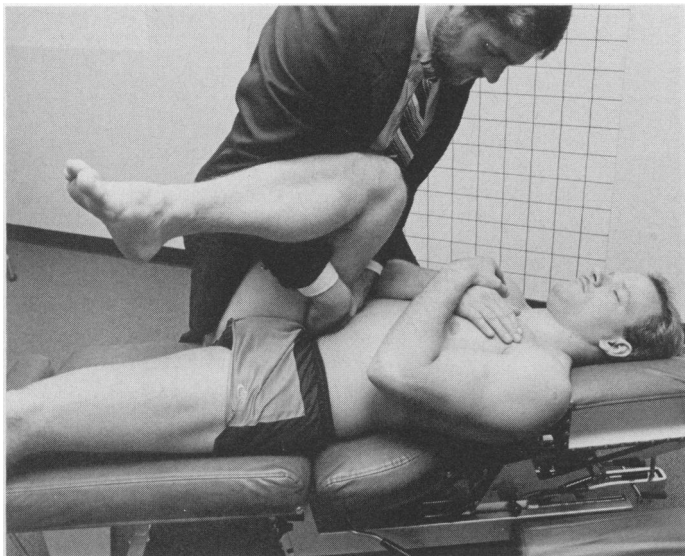


Figure 3: As the psoas muscle begins to relax, the doctor then forces the flexed leg over the chest of the patient (as far as is tolerable by the patient). This position is then held for twenty to thirty seconds or until the psoas muscle relaxes.

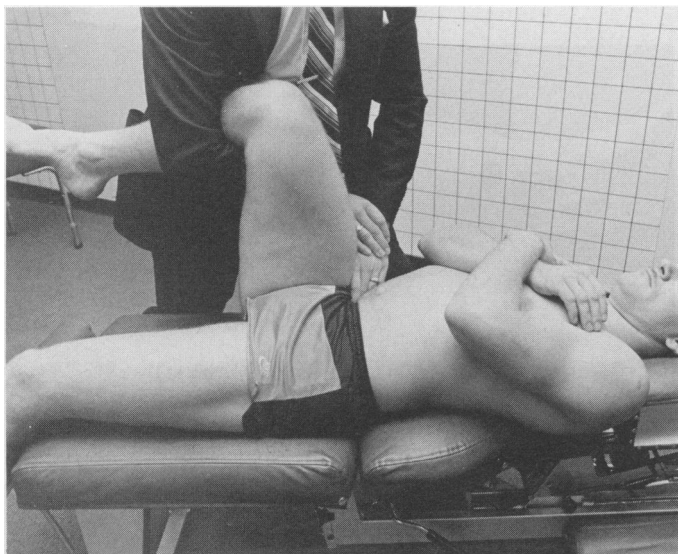


Figure 4: This figure illustrates the starting position taken for the treatment of a chronic psoas involvement. Once again the doctor stands on the side of the involved psoas muscle. The right arm is wrapped around the tibia and supports the left hand which now becomes the contact hand on the psoas muscle. This allows for forced internal rotation of the femur to take place.

Pressure techniques applied for the chronic psoas condition are utilized with stretching of the psoas muscle (see Fig. 4). Once again the leg of the involved psoas is flexed at the hip and the knee. However the right arm of the doctor is wrapped around the tibia and supports the left hand which is now the contact hand applying the pressure over the psoas muscle. This produces an internal rotation of the femur. The hip is further flexed over the chest of the patient while the pressure is maintained over the psoas muscle (see Fig. 5). Once the muscle begins to relax the leg is extended at the hip such that the foot approximates the floor (see Fig. 6). Throughout this procedure the pressure is maintained on the psoas by the left hand. In the completion of this manoeuvre, the doctor places his right foreleg around the foreleg of the patient's right leg and assists the contact hand above the knee in producing internal rotation of the femur. When the psoas muscle feels taut, a light impulse is given by both contact hands (left hand on the psoas and right hand above the knee creating a long lever action (see Fig. 7).

In managing the pregnant patient, pressure techniques of the psoas muscle are very beneficial, especially in the latter stages when the anterior carriage tightens the psoas to support the lumbar spine.⁶ In this case the patient lies in a lateral recumbent position with the involved psoas up (see Fig. 8).

The doctor stands behind the patient and supports the upper leg with the left arm. The forearm of the left arm wraps underneath the tibia and the hand is placed around the middle of the thigh. This support arm can control the amount of abduction, flexion, and internal rotation required throughout the procedure. The right hand contacts the psoas muscle. The leg is once again flexed as much as possible at the hip and internally rotated. The contact pressure is maintained on the psoas muscle while the leg is extended as much as tolerated by the patient (see Fig. 9, 10).

It should be noted that using the hip as a lever during these pressure techniques, the hip itself must be clear of fixation. Therefore if a fixation of the hip is present (as determined by joint play and end joint procedures), the hip should be adjusted first.

Acknowledgements

I would like to thank Scott Wood, audio visual technician, CMCC; Aron Enns, 4th year student, and the following graduates who as undergraduates assisted in the initial preparation: Bertrand Canuel, Monique Fournier, Richard Giguere, Lionel Henry, Claude Lachaine and Richard Valade.

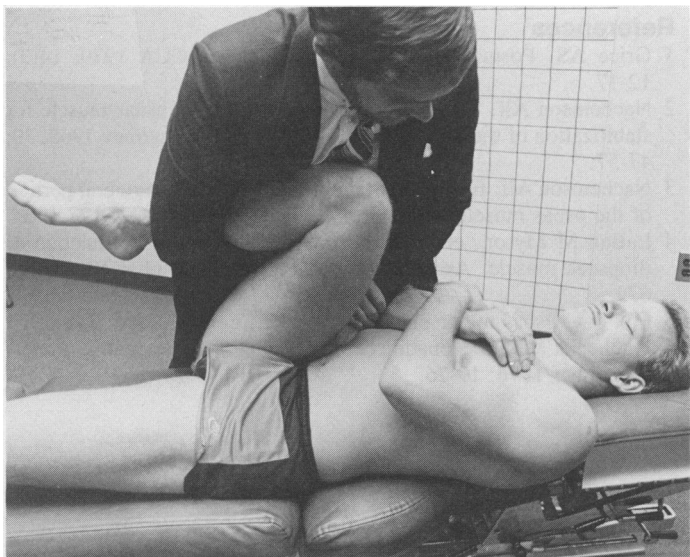


Figure 5: The leg is then flexed and adducted while maintaining pressure on the muscle. This position is held anywhere up to twenty seconds or until the muscle relaxes. Once the muscle relaxes, the leg can be extended off the table.

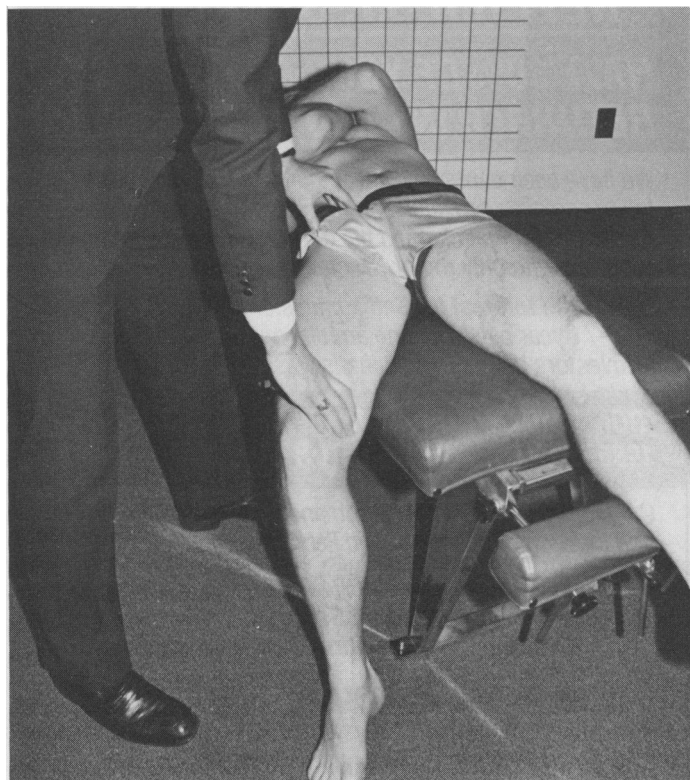


Figure 6: This figure demonstrates the position of the extended leg off the table. It should be noted that constant pressure is maintained over the muscle belly while the leg is extended off the table.

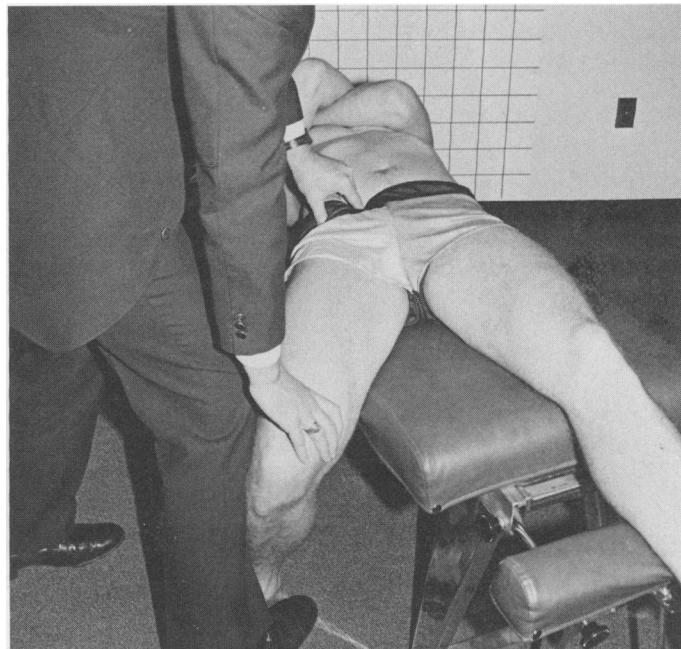


Figure 7: This figure demonstrates the final phase of the technique used for a chronic psoas involvement. Here the doctor's right leg contacts the tibia of the extended leg off the table and uses it as a lever to create internal rotation of the femur. The right hand contacts just above the knee and creates further extension and internal rotation of the femur. Throughout this procedure the left hand maintains constant pressure over the psoas muscle. When the muscle is taut, a high velocity, low amplitude thrust is applied by both hands.

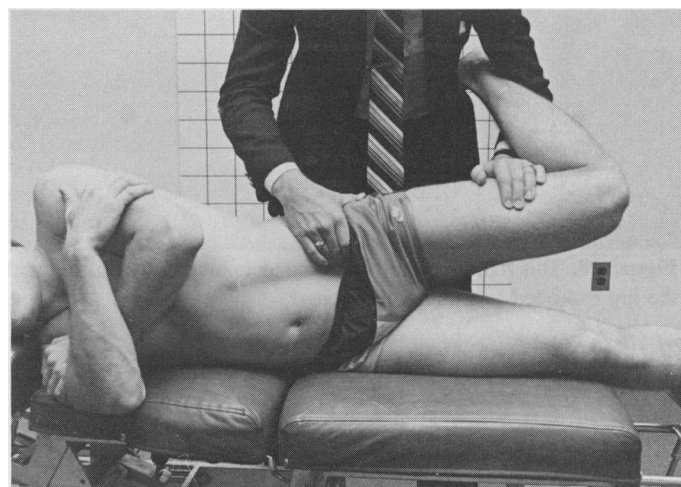


Figure 8: This figure demonstrates the starting position for the pregnant patient. The patient lies on their side with the involved psoas muscle up. The doctor stands behind the patient and the left arm is wrapped underneath and around the femur of the involved leg. The right hand is the contact hand over the psoas muscle.

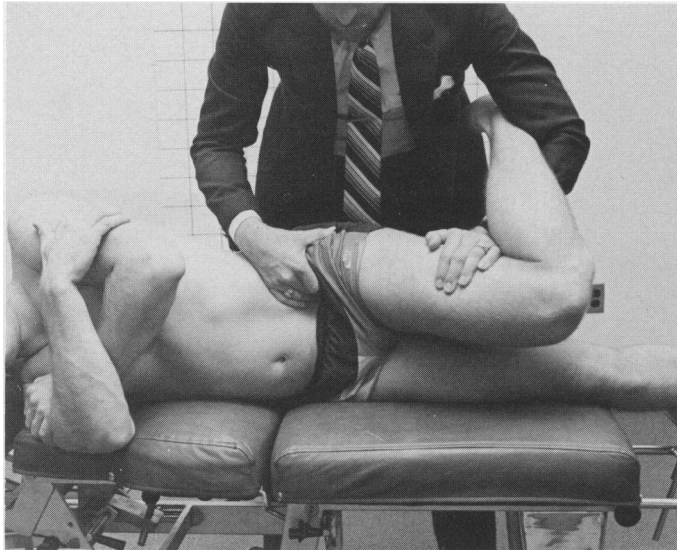


Figure 9: This figure demonstrates the technique being used with the hip flexed and internally rotated.

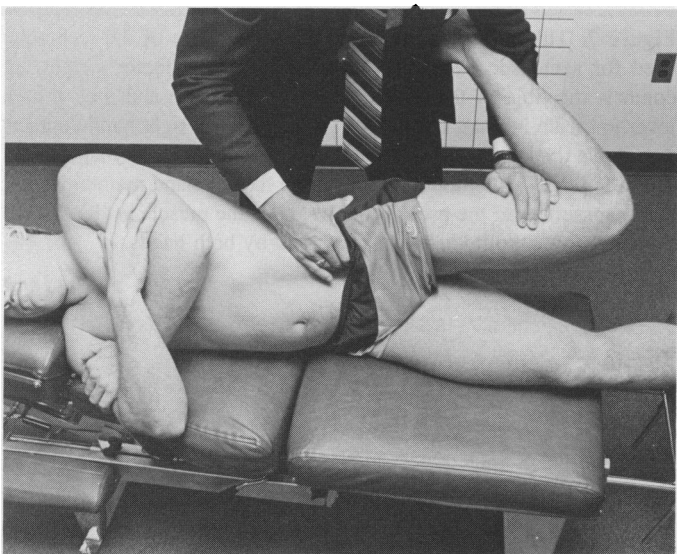


Figure 10: This figure demonstrates the technique being utilized with the hip extended and internally rotated.

References

- 1 Grice AS. Posture and postural mechanics. JCCA 1970; 14(2): 12-17.
- 2 Nachemson Alf. The possible importance of the psoas muscle for stabilization of the lumbar spine. Acta Orthop Scandinav 1968; 39: 47-57.
- 3 Nachemson Alf. Electromyographic studies on the vertebral portion of the psoas muscle. Acta Orthop Scandinav 1966; 37: 177-190.
- 4 LaBan M Myron, et. al. Electromyographic study of function of iliopsoas muscle. Archives Phys Med Rehab October 1965; 676-679.
- 5 Fox EA. Psoas major muscle. ACA J Chiro July 1967; S41-48.
- 6 Hitchcock ME. Osteopathic care in pregnancy. Osteopathic Annals December 1976; 19-26.

NEW R.R.S.P. STRATEGY

**HAVE 30% OF YOUR INVESTMENT
RETURNED IN CASH! – TAX FREE!**

We have been contacting Toronto area chiropractors this fall to explain a provincial grant program. October's Provincial Budget clarified the ongoing support of this program with only minor revisions.

Of Special Interest to: Self administered R.R.S.P. owners

- 60-71 year olds deciding annuity options vs R.R.I.F.'s
- Investors not interested in discussing M.U.R.B.'s.

**DON'T MISS ONE MAJOR ADVANTAGE FOR YOUR
1985 TAX YEAR – A DOUBLE OR TRIPLE TAX BREAK!**

**CALL or WRITE for information and a list of Seminar dates
and locations for January and February.**

Special guest at each lecture

DR. WALLACE STONEHOUSE

President – The Granite Group of Companies

PAUL WEMPLE FINANCIAL SERVICES

**2 BLOOR STREET WEST, SUITE 100
TORONTO, ONTARIO M4A 3E2**

(416) 465-8226

Out-of-town – call collect